

REMARKS

The Applicants request reconsideration of the rejection.

Claims 12, 14 and 15 remain pending.

Claims 12-14 stand rejected under 35 U.S.C. §102(b) as being anticipated by Mallary et al., US 5,805,392 (Mallary); Partee, US 6,081,408 (Partee), "and" Takeura, et al., US 4,807,073 (Takeura) (sic, a rejection under 35 U.S.C. §102 cannot be based on a combination of references). Assuming that the Examiner intended the rejection to be in the alternative, the Applicants nevertheless assert the patentability over each document taken individually as well as in combination.

As previously noted, Claim 12 is a method claim directed to a method for manufacturing a single pole type magnetic write head. The method includes steps of forming a groove on an inorganic insulating layer, forming a magnetic layer serving as the main pole of the write head in the groove, and forming a recess in the magnetic layer on a trailing side of an air bearing surface thereof. By way of non-limiting example, Fig. 9(A) – Fig. 9(G) show steps of etching an inorganic insulating layer 28, thereby forming a groove therein (Fig. 9(B)), forming a magnetic layer in the groove (Fig. 9(E)), and forming a hollow of the magnetic layer (Fig. 9(G)). Claim 12 has been amended to add the subject matter of claim 13; namely, that the recess is formed by ion milling.

It has been previously argued that Mallary does not teach the step of forming a groove on an inorganic insulating layer. Alumina layer 15 is coated or sheet-deposited onto magnetic layer 14 and hard baked resist 400, as described in col. 7, lines 26-31. As such, alumina layer 15 takes the shape of the surfaces on which it is

coated or sheet-deposited, and there is no teaching that a groove is formed in the layer 15.

Mallory also does not teach a step of forming the magnetic layer 16 as the main pole of the write head, in the groove. Rather, the entire structure shown in Fig. 4 constitutes either the pole 12 or pole 11 of the read head shown in Fig. 1, the pole 112 or the pole 111 of the inductive read or write head of Fig. 2, or the shared pole 270 of the combined read head and inductive write head of Fig. 3. Magnetic layer 16 itself does not serve as the main pole of the write head.

Further, the outline of the main pole as seen from the air bearing surface side has a first line segment opposed to the auxiliary pole and a second line segment opposed to the first line segment, wherein the second line segment has one or more points closer to the first line segment than opposite ends of the second line segment. This structure is neither disclosed nor suggested by Mallory, even taken in combination with Partee and Takeura.

Moreover, Mallory does not teach the step of forming a recess in the magnetic layer on a trailing side of an air bearing surface thereof, by ion milling. Rather, the ion milling cited in the Office Action "operates to remove the exposed portions of second plating seed layer 415, and to trim and perfect the Y-Z planar shape of the top NiFe layer 16." That is, the ion milling trims the edges of magnetic layer 16 and seed layer 15 outside the magnetic layer 16, so as to achieve the profile shown in Fig. 4. Mallory does not teach that the ion milling forms a recess in layer 16. It is noted that the Office Action does not address the Applicants' prior remarks concerning this limitation, and specifically does not rebut the remarks with a citation

to any teaching in Mallary, Partee, or Takeura as to the ion milling. Thus, even in combination, these references do not teach the invention claimed in claim 12.

Claim 15 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Mallary in view of Cohen et al., U.S. Patent No. 5,326,429 (Cohen). Cohen is cited as teaching to pattern an inorganic insulating layer of alumina by using a resist pattern to etch a groove in the insulating layer. However, Cohen does not teach that the groove is formed in an inorganic insulating layer on which a magnetic layer serving as the main pole of the write head is formed. Accordingly, even in combination with Mallary, Cohen does not render obvious the invention claimed in claim 15.

In view of the foregoing amendments, the Applicants request reconsideration of the rejection and allowance of the claims.

To the extent necessary, Applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, or credit any overpayment of fees, to the deposit account of Mattingly, Stanger, Malur & Brundidge, P.C., Deposit Account No. 50-1417 (referencing attorney docket no. NIT-320-02).

Respectfully submitted,

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